SEQUENCE LISTING

<110>   Sims, John E.
        Smith, Dirk E.

<120>   IL-1 RECEPTOR ACCESSORY PROTEIN

<130>   3151-A

<140>   --to be assigned--
<141>   2001-10-26

<150>   US 60/244,831
<151>   2000-10-31

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<170>   PatentIn version 3.1

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<223>   "n" = a or c. Xaa at amino acid position 598 is Thr or Pro.

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atg aca ctt ctg tgg tgt gta gtg agt ctc tac ttt tat gga atc ctg      48
Met Thr Leu Leu Trp Cys Val Val Ser Leu Tyr Phe Tyr Gly Ile Leu
1               5                   10                  15

caa agt gat gcc tca gaa cgc tgc gat gac tgg gga cta gac acc atg      96
Gln Ser Asp Ala Ser Glu Arg Cys Asp Asp Trp Gly Leu Asp Thr Met
                20                  25                  30

agg caa atc caa gtg ttt gaa gat gag cca gct cgc atc aag tgc cca     144
Arg Gln Ile Gln Val Phe Glu Asp Glu Pro Ala Arg Ile Lys Cys Pro
            35                  40                  45

ctc ttt gaa cac ttc ttg aaa ttc aac tac agc aca gcc cat tca gct     192
Leu Phe Glu His Phe Leu Lys Phe Asn Tyr Ser Thr Ala His Ser Ala
        50                  55                  60

ggc ctt act ctg atc tgg tat tgg act agg cag gac cgg gac ctt gag     240
Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu
65                  70                  75                  80

gag cca att aac ttc cgc ctc ccc gag aac cgc att agt aag gag aaa     288
Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys
                85                  90                  95
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gat gtg ctg tgg ttc cgg ccc act ctc ctc aat gac act ggc aac tat        336
Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr
        100                 105                 110

acc tgc atg tta agg aac act aca tat tgc agc aaa gtt gca ttt ccc        384
Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro
        115                 120                 125

ttg gaa gtt gtt caa aaa gac agc tgt ttc aat tcc ccc atg aaa ctc        432
Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Pro Met Lys Leu
    130                 135                 140

cca gtg cat aaa ctg tat ata gaa tat ggc att cag agg atc act tgt        480
Pro Val His Lys Leu Tyr Ile Glu Tyr Gly Ile Gln Arg Ile Thr Cys
145                 150                 155                 160

cca aat gta gat gga tat ttt cct tcc agt gtc aaa ccg act atc act        528
Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Thr Ile Thr
                165                 170                 175

tgg tat atg ggc tgt tat aaa ata cag aat ttt aat aat gta ata ccc        576
Trp Tyr Met Gly Cys Tyr Lys Ile Gln Asn Phe Asn Asn Val Ile Pro
                180                 185                 190

gaa ggt atg aac ttg agt ttc ctc att gcc tta att tca aat aat gga        624
Glu Gly Met Asn Leu Ser Phe Leu Ile Ala Leu Ile Ser Asn Asn Gly
                195                 200                 205

aat tac aca tgt gtt gtt aca tat cca gaa aat gga cgt acg ttt cat        672
Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His
    210                 215                 220

ctc acc agg act ctg act gta aag gta gta ggc tct cca aaa aat gca        720
Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala
225                 230                 235                 240

gtg ccc cct gtg atc cat tca cct aat gat cat gtg gtc tat gag aaa        768
Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys
                245                 250                 255

gaa cca gga gag gag cta ctc att ccc tgt acg gtc tat ttt agt ttt        816
Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe
            260                 265                 270

ctg atg gat tct cgc aat gag gtt tgg tgg acc att gat gga aaa aaa        864
Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys
            275                 280                 285

cct gat gac atc act att gat gtc acc att aac gaa agt ata agt cat        912
Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His
    290                 295                 300

agt aga aca gaa gat gaa aca aga act cag att ttg agc atc aag aaa        960
Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys
305                 310                 315                 320

gtt acc tct gag gat ctc aag cgc agc tat gtc tgt cat gct aga agt       1008
Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser
                325                 330                 335
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2

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gcc aaa ggc gaa gtt gcc aaa gca gcc aag gtg aag cag aaa gtg cca    1056
Ala Lys Gly Glu Val Ala Lys Ala Ala Lys Val Lys Gln Lys Val Pro
            340                 345                 350

gct cca aga tac aca gtg gaa ctg gct tgt ggt ttt gga gcc aca gtc    1104
Ala Pro Arg Tyr Thr Val Glu Leu Ala Cys Gly Phe Gly Ala Thr Val
            355                 360                 365

ctg cta gtg gtg att ctc att gtt gtt tac cat gtt tac tgg cta gag    1152
Leu Leu Val Val Ile Leu Ile Val Val Tyr His Val Tyr Trp Leu Glu
            370                 375                 380

atg gtc cta ttt tac cgg gct cat ttt gga aca gat gaa acc att tta    1200
Met Val Leu Phe Tyr Arg Ala His Phe Gly Thr Asp Glu Thr Ile Leu
385                 390                 395                 400

gat gga aaa gag tat gat att tat gta tcc tat gca agg aat gcg gaa    1248
Asp Gly Lys Glu Tyr Asp Ile Tyr Val Ser Tyr Ala Arg Asn Ala Glu
                405                 410                 415

gaa gaa gaa ttt gta tta ctg acc ctc cgt gga gtt ttg gag aat gaa    1296
Glu Glu Glu Phe Val Leu Leu Thr Leu Arg Gly Val Leu Glu Asn Glu
            420                 425                 430

ttt gga tac aag ctg tgc atc ttt gac cga gac agt ctg cct ggg gga    1344
Phe Gly Tyr Lys Leu Cys Ile Phe Asp Arg Asp Ser Leu Pro Gly Gly
            435                 440                 445

aat aca gtg gaa gca gtt ttt gat ttc att cag aga agc aga agg atg    1392
Asn Thr Val Glu Ala Val Phe Asp Phe Ile Gln Arg Ser Arg Arg Met
            450                 455                 460

att gtt gtt ctg agc cct gac tat gtg aca gaa aag agc atc agc atg    1440
Ile Val Val Leu Ser Pro Asp Tyr Val Thr Glu Lys Ser Ile Ser Met
465                 470                 475                 480

ctg gag ttt aaa ctg ggt gtc atg tgc cag aac tcc att gcc acc aag    1488
Leu Glu Phe Lys Leu Gly Val Met Cys Gln Asn Ser Ile Ala Thr Lys
                485                 490                 495

ctc att gtg gtt gag tac cgt ccc ctt gag cac ccg cac cca ggc att    1536
Leu Ile Val Val Glu Tyr Arg Pro Leu Glu His Pro His Pro Gly Ile
            500                 505                 510

ctt cag ctc aaa gag tct gtg tct ttt gtg agc tgg aag gga gaa aag    1584
Leu Gln Leu Lys Glu Ser Val Ser Phe Val Ser Trp Lys Gly Glu Lys
            515                 520                 525

tcc aaa cat tct ggc tct aaa ttc tgg aaa gct ttg cgg ttg gct ctt    1632
Ser Lys His Ser Gly Ser Lys Phe Trp Lys Ala Leu Arg Leu Ala Leu
            530                 535                 540

ccc ctg aga agt ctg agt gcc agt tct ggc tgg aat gag agc tgc tct    1680
Pro Leu Arg Ser Leu Ser Ala Ser Ser Gly Trp Asn Glu Ser Cys Ser
545                 550                 555                 560

tcc cag tct gac atc agt ctg gat cac gtt caa agg agg aga agt cgt    1728
Ser Gln Ser Asp Ile Ser Leu Asp His Val Gln Arg Arg Arg Ser Arg
                565                 570                 575
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3

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ttg aaa gag ccc cca gaa ctt cag agc tca gag agg gct gca ggt agc      1776
Leu Lys Glu Pro Pro Glu Leu Gln Ser Ser Glu Arg Ala Ala Gly Ser
            580             585             590

cct cca gcc cca ggc nca atg tcc aag cac cga ggg aag tcc tcc gcc      1824
Pro Pro Ala Pro Gly Xaa Met Ser Lys His Arg Gly Lys Ser Ser Ala
            595             600             605

acc tgc cgc tgt tgt gtc acc tac tgt gaa gga gag aat cac ctt agg      1872
Thr Cys Arg Cys Cys Val Thr Tyr Cys Glu Gly Glu Asn His Leu Arg
        610             615             620

aac aag agc cgg gca gag att cat aac cag ccc cag tgg gag aca cac      1920
Asn Lys Ser Arg Ala Glu Ile His Asn Gln Pro Gln Trp Glu Thr His
625             630             635             640

ctc tgt aag cct gtt ccc caa gag tca gaa act caa tgg ata caa aat      1968
Leu Cys Lys Pro Val Pro Gln Glu Ser Glu Thr Gln Trp Ile Gln Asn
            645             650             655

ggc acc aga ttg gaa ccc cct gct ccc cag atc tca gcc ctt gct ctt      2016
Gly Thr Arg Leu Glu Pro Pro Ala Pro Gln Ile Ser Ala Leu Ala Leu
            660             665             670

cat cat ttc acg gac tta tcc aat aac aac gac ttt tat atc cta taa      2064
His His Phe Thr Asp Leu Ser Asn Asn Asn Asp Phe Tyr Ile Leu
            675             680             685


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Met Thr Leu Leu Trp Cys Val Val Ser Leu Tyr Phe Tyr Gly Ile Leu
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Gln Ser Asp Ala Ser Glu Arg Cys Asp Asp Trp Gly Leu Asp Thr Met
            20              25              30


Arg Gln Ile Gln Val Phe Glu Asp Glu Pro Ala Arg Ile Lys Cys Pro
        35              40              45


Leu Phe Glu His Phe Leu Lys Phe Asn Tyr Ser Thr Ala His Ser Ala
    50              55              60


Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu
65              70              75              80
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Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys
                85                  90                  95

Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr
               100                 105                110

Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro
               115                 120                 125

Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Pro Met Lys Leu
    130                 135                 140

Pro Val His Lys Leu Tyr Ile Glu Tyr Gly Ile Gln Arg Ile Thr Cys
145                 150                 155                 160

Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Thr Ile Thr
               165                 170                 175

Trp Tyr Met Gly Cys Tyr Lys Ile Gln Asn Phe Asn Asn Val Ile Pro
               180                 185                 190

Glu Gly Met Asn Leu Ser Phe Leu Ile Ala Leu Ile Ser Asn Asn Gly
               195                 200                 205

Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His
    210                 215                 220

Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala
225                 230                 235                 240

Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys
               245                 250                 255

Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe
               260                 265                 270

Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys
               275                 280                 285

Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His
    290                 295                 300

Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys
305                 310                 315                 320
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5

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Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser
                325             330             335

Ala Lys Gly Glu Val Ala Lys Ala Ala Lys Val Lys Gln Lys Val Pro
                340             345             350

Ala Pro Arg Tyr Thr Val Glu Leu Ala Cys Gly Phe Gly Ala Thr Val
            355             360             365

Leu Leu Val Val Ile Leu Ile Val Val Tyr His Val Tyr Trp Leu Glu
        370             375             380

Met Val Leu Phe Tyr Arg Ala His Phe Gly Thr Asp Glu Thr Ile Leu
385             390             395                 400

Asp Gly Lys Glu Tyr Asp Ile Tyr Val Ser Tyr Ala Arg Asn Ala Glu
                405             410             415

Glu Glu Glu Phe Val Leu Leu Thr Leu Arg Gly Val Leu Glu Asn Glu
            420             425             430

Phe Gly Tyr Lys Leu Cys Ile Phe Asp Arg Asp Ser Leu Pro Gly Gly
            435             440             445

Asn Thr Val Glu Ala Val Phe Asp Phe Ile Gln Arg Ser Arg Arg Met
    450             455             460

Ile Val Val Leu Ser Pro Asp Tyr Val Thr Glu Lys Ser Ile Ser Met
465             470             475                 480

Leu Glu Phe Lys Leu Gly Val Met Cys Gln Asn Ser Ile Ala Thr Lys
                485             490             495

Leu Ile Val Val Glu Tyr Arg Pro Leu Glu His Pro His Pro Gly Ile
            500             505             510

Leu Gln Leu Lys Glu Ser Val Ser Phe Val Ser Trp Lys Gly Glu Lys
        515             520             525

Ser Lys His Ser Gly Ser Lys Phe Trp Lys Ala Leu Arg Leu Ala Leu
    530             535             540

Pro Leu Arg Ser Leu Ser Ala Ser Ser Gly Trp Asn Glu Ser Cys Ser
545             550             555                 560
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6

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Ser Gln Ser Asp Ile Ser Leu Asp His Val Gln Arg Arg Arg Ser Arg
                565             570                 575

Leu Lys Glu Pro Pro Glu Leu Gln Ser Ser Glu Arg Ala Ala Gly Ser
            580             585                 590

Pro Pro Ala Pro Gly Xaa Met Ser Lys His Arg Gly Lys Ser Ser Ala
            595             600                 605

Thr Cys Arg Cys Cys Val Thr Tyr Cys Glu Gly Glu Asn His Leu Arg
    610             615             620

Asn Lys Ser Arg Ala Glu Ile His Asn Gln Pro Gln Trp Glu Thr His
625             630             635                 640

Leu Cys Lys Pro Val Pro Gln Glu Ser Glu Thr Gln Trp Ile Gln Asn
            645             650                 655

Gly Thr Arg Leu Glu Pro Pro Ala Pro Gln Ile Ser Ala Leu Ala Leu
            660             665                 670

His His Phe Thr Asp Leu Ser Asn Asn Asn Asp Phe Tyr Ile Leu
            675             680             685
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Met Gly Leu Leu Trp Tyr Leu Met Ser Leu Ser Phe Tyr Gly Ile Leu
1               5                   10                  15

cag agt cat gct tcg gag cgc tgt gat gac tgg gga cta gat acc atg      96
Gln Ser His Ala Ser Glu Arg Cys Asp Asp Trp Gly Leu Asp Thr Met
            20                  25                  30

cga caa atc caa gtg ttt gaa gat gag ccg gct cga atc aag tgc ccc     144
Arg Gln Ile Gln Val Phe Glu Asp Glu Pro Ala Arg Ile Lys Cys Pro
            35                  40                  45

ctc ttt gaa cac ttc ctg aag tac aac tac agc act gcc cat tcc tct     192
Leu Phe Glu His Phe Leu Lys Tyr Asn Tyr Ser Thr Ala His Ser Ser
            50                  55                  60
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ggc ctt acc ctg atc tgg tac tgg acc agg caa gac cgg gac ctg gag      240
Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu
65                  70                  75                  80

gag ccc att aac ttc cgc ctc cca gag aat cgc atc agt aag gag aaa      288
Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys
                85                  90                  95

gat gtg ctc tgg ttc cgg ccc acc ctc ctc aat gac acg ggc aat tac      336
Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr
                100                 105                 110

acc tgc atg ttg agg aac aca act tac tgc agc aaa gtt gca ttt ccc      384
Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro
                115                 120                 125

ctg gaa gtt gtt cag aag gac agc tgt ttc aat tct gcc atg aga ttc      432
Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Ala Met Arg Phe
            130                 135                 140

cca gtg cac aag atg tat att gaa cat ggc att cat aag atc aca tgt      480
Pro Val His Lys Met Tyr Ile Glu His Gly Ile His Lys Ile Thr Cys
145                 150                 155                 160

cca aat gta gac gga tac ttt cct tcc agt gtc aaa cca tcg gtc act      528
Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Ser Val Thr
                165                 170                 175

tgg tat aag ggt tgt act gaa ata gtg gac ttt cat aat gta cta ccc      576
Trp Tyr Lys Gly Cys Thr Glu Ile Val Asp Phe His Asn Val Leu Pro
                180                 185                 190

gag ggc atg aac ttg agc ttt ttc atc ccc ttg gtt tca aat aac gga      624
Glu Gly Met Asn Leu Ser Phe Phe Ile Pro Leu Val Ser Asn Asn Gly
            195                 200                 205

aat tac aca tgt gtg gtt aca tat cct gaa aac gga cgt ctc ttt cac      672
Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Leu Phe His
    210                 215                 220

ctc acc agg act gtg act gta aag gtg gtg ggc tca cca aag gat gca      720
Leu Thr Arg Thr Val Thr Val Lys Val Val Gly Ser Pro Lys Asp Ala
225                 230                 235                 240

ttg cca ccc cag atc tat tct cca aat gac cgt gtt gtc tat gag aaa      768
Leu Pro Pro Gln Ile Tyr Ser Pro Asn Asp Arg Val Val Tyr Glu Lys
                245                 250                 255

gaa cca gga gag gaa ctg gtt att ccc tgc aaa gtc tat ttc agt ttc      816
Glu Pro Gly Glu Glu Leu Val Ile Pro Cys Lys Val Tyr Phe Ser Phe
                260                 265                 270

att atg gac tcc cac aat gag gtc tgg tgg acc att gat gga aag aag      864
Ile Met Asp Ser His Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys
            275                 280                 285

cct gat gac gtc aca gtc gac atc act att aat gaa agt gta agt tat      912
Pro Asp Asp Val Thr Val Asp Ile Thr Ile Asn Glu Ser Val Ser Tyr
        290                 295                 300
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tct tca acg gaa gat gaa aca agg act cag att ttg agc atc aag aaa    960
Ser Ser Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys
305             310             315             320

gtc acc ccg gag gat ctc agg cgc aac tat gtc tgt cat gct cga aat    1008
Val Thr Pro Glu Asp Leu Arg Arg Asn Tyr Val Cys His Ala Arg Asn
            325             330             335

acc aaa ggg gaa gct gag cag gct gcc aag gtg aaa cag aaa gtc ata    1056
Thr Lys Gly Glu Ala Glu Gln Ala Ala Lys Val Lys Gln Lys Val Ile
        340             345             350

cca cca agg tac aca gta gaa ctc gcc tgt ggt ttt gga gcc acg gtc    1104
Pro Pro Arg Tyr Thr Val Glu Leu Ala Cys Gly Phe Gly Ala Thr Val
        355             360             365

ttt ctg gta gtg gtt ctc att gtg gtt tac cat gtt tac tgg ctg gag    1152
Phe Leu Val Val Val Leu Ile Val Val Tyr His Val Tyr Trp Leu Glu
        370             375             380

atg gtc ctc ttt tac cga gct cac ttt gga aca gat gaa aca att ctt    1200
Met Val Leu Phe Tyr Arg Ala His Phe Gly Thr Asp Glu Thr Ile Leu
385             390             395             400

gat gga aag gag tat gat att tat gtt tcc tat gca aga aat gtg gaa    1248
Asp Gly Lys Glu Tyr Asp Ile Tyr Val Ser Tyr Ala Arg Asn Val Glu
            405             410             415

gaa gag gaa ttt gtg ctg ctg acg ctg cgt gga gtt ttg gag aat gag    1296
Glu Glu Glu Phe Val Leu Leu Thr Leu Arg Gly Val Leu Glu Asn Glu
            420             425             430

ttt gga tac aag ctg tgc atc ttc gac aga gac agc ctg cct ggg gga    1344
Phe Gly Tyr Lys Leu Cys Ile Phe Asp Arg Asp Ser Leu Pro Gly Gly
            435             440             445

aat acc gtg gaa gca gtt ttt gat ttc att cag agg agc cga agg atg    1392
Asn Thr Val Glu Ala Val Phe Asp Phe Ile Gln Arg Ser Arg Arg Met
        450             455             460

att gtt gtc ctg agc cct gac tat gtg aca gaa aag agc atc agc atg    1440
Ile Val Val Leu Ser Pro Asp Tyr Val Thr Glu Lys Ser Ile Ser Met
465             470             475             480

ctg gag ttt aag ctg ggt gtc atg tgc cag aac tcc att gcc act aag    1488
Leu Glu Phe Lys Leu Gly Val Met Cys Gln Asn Ser Ile Ala Thr Lys
            485             490             495

ctc att gtg gtg gag tac cgt ccg ctt gag caa ccc cat cca ggc atc    1536
Leu Ile Val Val Glu Tyr Arg Pro Leu Glu Gln Pro His Pro Gly Ile
            500             505             510

atg cag ctg aag gag tct gtg tct ttt gta agc tgg aag gga gaa aag    1584
Met Gln Leu Lys Glu Ser Val Ser Phe Val Ser Trp Lys Gly Glu Lys
            515             520             525

tcc aaa cat tct ggc tcc aag ttc tgg aag gcc ttg cgt ttg gct ctt    1632
Ser Lys His Ser Gly Ser Lys Phe Trp Lys Ala Leu Arg Leu Ala Leu
        530             535             540
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9

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ccc ctg aga agt ctg agc gcc agc tcc ggc tgg aat gag agc tgt tct      1680
Pro Leu Arg Ser Leu Ser Ala Ser Ser Gly Trp Asn Glu Ser Cys Ser
545                 550                 555                 560

tct cag tct gac atc agt ctg gat cat gtt cag agg aga agt cgt ttg      1728
Ser Gln Ser Asp Ile Ser Leu Asp His Val Gln Arg Arg Ser Arg Leu
                565                 570                 575

aaa gag ccc cca gaa ctc cga agc tca gag agg gtg tct gga gca gag      1776
Lys Glu Pro Pro Glu Leu Arg Ser Ser Glu Arg Val Ser Gly Ala Glu
                580                 585                 590

cca gcc ccg ggc acg atg tcc aag cac cga ggg aaa ccc tca gca gcc      1824
Pro Ala Pro Gly Thr Met Ser Lys His Arg Gly Lys Pro Ser Ala Ala
                595                 600                 605

tgt cgc tgc tgt gtc acc tac tgt gaa gga gaa agt cac ctc agg agc      1872
Cys Arg Cys Cys Val Thr Tyr Cys Glu Gly Glu Ser His Leu Arg Ser
        610                 615                 620

aag agc cgg gca gag atg cac acg cat ccc cag tgg gaa aca cac ctc      1920
Lys Ser Arg Ala Glu Met His Thr His Pro Gln Trp Glu Thr His Leu
625                 630                 635                 640

tgt aag cct cct ctc caa gag tct gaa agt cag tgg ata caa aat ggc      1968
Cys Lys Pro Pro Leu Gln Glu Ser Glu Ser Gln Trp Ile Gln Asn Gly
                645                 650                 655

acc cga ccc gaa ccc gct ccc cag atc tca gct ctt gca ctc cgc cac      2016
Thr Arg Pro Glu Pro Ala Pro Gln Ile Ser Ala Leu Ala Leu Arg His
                660                 665                 670

ttt aca gat tta tcc aat aac aat gac ttt tat atc cta taa             2058
Phe Thr Asp Leu Ser Asn Asn Asn Asp Phe Tyr Ile Leu
                675                 680                 685


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Gln Ser His Ala Ser Glu Arg Cys Asp Asp Trp Gly Leu Asp Thr Met
                20                  25                  30


Arg Gln Ile Gln Val Phe Glu Asp Glu Pro Ala Arg Ile Lys Cys Pro
            35                  40                  45


Leu Phe Glu His Phe Leu Lys Tyr Asn Tyr Ser Thr Ala His Ser Ser
        50                  55                  60
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Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu
65   70   75   80

Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys
                85   90   95

Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr
            100   105   110

Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro
        115   120   125

Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Ala Met Arg Phe
        130   135   140

Pro Val His Lys Met Tyr Ile Glu His Gly Ile His Lys Ile Thr Cys
145   150   155   160

Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Ser Val Thr
            165   170   175

Trp Tyr Lys Gly Cys Thr Glu Ile Val Asp Phe His Asn Val Leu Pro
            180   185   190

Glu Gly Met Asn Leu Ser Phe Phe Ile Pro Leu Val Ser Asn Asn Gly
        195   200   205

Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Leu Phe His
    210   215   220

Leu Thr Arg Thr Val Thr Val Lys Val Val Gly Ser Pro Lys Asp Ala
225   230   235   240

Leu Pro Pro Gln Ile Tyr Ser Pro Asn Asp Arg Val Val Tyr Glu Lys
            245   250   255

Glu Pro Gly Glu Glu Leu Val Ile Pro Cys Lys Val Tyr Phe Ser Phe
            260   265   270

Ile Met Asp Ser His Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys
        275   280   285

Pro Asp Asp Val Thr Val Asp Ile Thr Ile Asn Glu Ser Val Ser Tyr
    290   295   300

11

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Ser Ser Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys
305             310             315             320

Val Thr Pro Glu Asp Leu Arg Arg Asn Tyr Val Cys His Ala Arg Asn
            325             330             335

Thr Lys Gly Glu Ala Glu Gln Ala Ala Lys Val Lys Gln Lys Val Ile
            340             345             350

Pro Pro Arg Tyr Thr Val Glu Leu Ala Cys Gly Phe Gly Ala Thr Val
            355             360             365

Phe Leu Val Val Val Leu Ile Val Val Tyr His Val Tyr Trp Leu Glu
    370             375             380

Met Val Leu Phe Tyr Arg Ala His Phe Gly Thr Asp Glu Thr Ile Leu
385             390             395             400

Asp Gly Lys Glu Tyr Asp Ile Tyr Val Ser Tyr Ala Arg Asn Val Glu
            405             410             415

Glu Glu Glu Phe Val Leu Leu Thr Leu Arg Gly Val Leu Glu Asn Glu
            420             425             430

Phe Gly Tyr Lys Leu Cys Ile Phe Asp Arg Asp Ser Leu Pro Gly Gly
            435             440             445

Asn Thr Val Glu Ala Val Phe Asp Phe Ile Gln Arg Ser Arg Arg Met
    450             455             460

Ile Val Val Leu Ser Pro Asp Tyr Val Thr Glu Lys Ser Ile Ser Met
465             470             475             480

Leu Glu Phe Lys Leu Gly Val Met Cys Gln Asn Ser Ile Ala Thr Lys
            485             490             495

Leu Ile Val Val Glu Tyr Arg Pro Leu Glu Gln Pro His Pro Gly Ile
            500             505             510

Met Gln Leu Lys Glu Ser Val Ser Phe Val Ser Trp Lys Gly Glu Lys
            515             520             525

Ser Lys His Ser Gly Ser Lys Phe Trp Lys Ala Leu Arg Leu Ala Leu
    530             535             540
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Pro Leu Arg Ser Leu Ser Ala Ser Ser Gly Trp Asn Glu Ser Cys Ser
545             550             555             560

Ser Gln Ser Asp Ile Ser Leu Asp His Val Gln Arg Arg Ser Arg Leu
            565             570             575

Lys Glu Pro Pro Glu Leu Arg Ser Ser Glu Arg Val Ser Gly Ala Glu
        580             585             590

Pro Ala Pro Gly Thr Met Ser Lys His Arg Gly Lys Pro Ser Ala Ala
        595             600             605

Cys Arg Cys Cys Val Thr Tyr Cys Glu Gly Glu Ser His Leu Arg Ser
    610             615             620

Lys Ser Arg Ala Glu Met His' Thr His Pro Gln Trp Glu Thr His Leu
625             630             635             640

Cys Lys Pro Pro Leu Gln Glu Ser Glu Ser Gln Trp Ile Gln Asn Gly
            645             650             655

Thr Arg Pro Glu Pro Ala Pro Gln Ile Ser Ala Leu Ala Leu Arg His
        660             665             670

Phe Thr Asp Leu Ser Asn Asn Asn Asp Phe Tyr Ile Leu
    675             680             685
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